

### ABSTRACT

A core rod is utilized in the process of forming a core in a metal casting. The core rod has a length and opposite ends. The core rod is generally round in cross-section along at least a portion of the length of the core rod proximate at least one of the ends configured for use in forming the core of the metal casting. The core rod is made from a precipitation-hardenable alloy including about 40.0 to 75.0 wt. % Ni, about 0.0 to 25.0 wt. % Co, about 10.0 to 25.0 wt. % Cr, and about 0.0 to 20.0 wt. % Fe. A method for forming a core within a metal casting includes the steps of providing a precipitation-hardenable alloy core rod having a length and opposite ends; packing sand around at least one end of the core rod to form a sand core with core rod; placing the sand core with core rod into a mold; pouring molten metal into the mold and around the sand core with core rod; and producing a metal casting having a core and a uniform sidewall thickness in a range of +/- 0.060 inches. An improved casting produced by the disclosed method and core rod is also disclosed.